Introduction

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Mastocytosis is a rare disease characterized by an increase in mast cell numbers. The disease, at least in its cutaneous manifestations, has been recognized for over 100 years. During the past decade, however, we have witnessed an upsurge of interest in it, in part because of increasing awareness of the importance of mast cells in health and disease.

Mast cells were traditionally recognized in terms of their primary effector role in the genesis of allergic disease. It is now clear that they participate in a wide variety of processes: release of preformed mediators, such as histamine, proteases, and heparin; generation of lipid-derived substances, such as the leukotrienes and platelet-activating factor; and, after activation, synthesis of growth factors and inflammatory cytokines (Fig 1). Those findings, taken together with mast cells' prominent positions in lymphoid tissues, along nerves and blood vessels, and throughout connective tissues, as well as within tissues that interface with the outside environment (i.e., the skin and the gastrointestinal tract), facilitate the formulation of hypotheses about their function. Currently, it seems that mast cells provide a defense against certain parasites and fill a number of regulatory roles in the inflammatory response, including aiding in the regulation of lymphoid responses, the stimulation of connective tissue repair, and the maintenance of the vasculature. Thus it is that the study of patients with mastocytosis provides insight into the biologic potential of mast cells.

Clinical observations over the past quarter century make it clear that mastocytosis cannot be considered as a single well-defined disorder, but rather as a disease that is heterogeneous in manifestations and prognosis. Patients with more benign, or indolent, forms of the disease may live relatively normal lives with proper medical control of their symptoms. Other patients have aggressive forms of mastocytosis (sometimes associated with hematologic disorders) and a much less optimistic prognosis. The complexity of the pathologic process provides a difficult challenge for the internist, pediatrician, allergist, or dermatologist, who is unlikely in his or her career to see sufficient cases of mastocytosis to obtain true insight into the disease. Thus it falls upon clinical investigators from multiple disciplines to summarize their more extensive experience, so that the practicing physician may knowledgeably select the proper course of action, both in medical treatment and in counseling.

Although mastocytosis is a rare disorder, the past few years have seen a number of therapeutic advances in its management. Nonsedative H1 antihistamines can be of great benefit in the routine daily relief of pruritus. H2 antihistamines, developed for the treatment of gastric hypersecretion and resultant ulcer disease, are a valuable adjunct in the prevention of intractable ulcers, which at one time were a major management challenge. Among mast cell "stabilizing" drugs, cromolyn sodium has proved effective and is approved for the management of mastocytosis. Finally, steroids (developed and widely used as anti-inflammatory agents) may be useful in the management of severe inflammatory bowel disease.

It was thus the increased recognition of the incidence of mastocytosis, the increasing interest in the mast cell itself, the pleomorphic nature of the disease, and the appearance of new and important therapies that led to the decision to convene this unique roundtable. The meeting brought together the expertise of centers involved in the study and therapy of series of patients with that of clinical investigators and basic researchers involved in the study of mast cells.

The roundtable commences with an overview of current classification schemas, clinical experience with adult disease, the specifics of pediatric mastocytosis, and the differential diagnosis of unexplained flushing and vascular collapse. The next section deals with the ultrastructure and immunohistochemical characterization of mast cells in diverse tissues and with organ-specific pathology. The speakers focus on those target organs particularly involved in mastocytosis, the skin, bone marrow, skeletal system, stomach, intestine, liver, spleen, and lymph nodes. A final third of the conference addresses the subject of selection of appropriate management strategies in mastocytosis. The focus is on the appropriate use of H1 and H2 antihistamines, aspirin, steroids, and mast-cell stabilizing drugs, including cromolyn sodium. The participants hope that the compilation of basic and clinical research on mastocytosis in one document will provide a ready reference for individuals interested in basic research on mast cells as well as a valuable reference for clinicians engaged in the management of patients with mast cell disease.

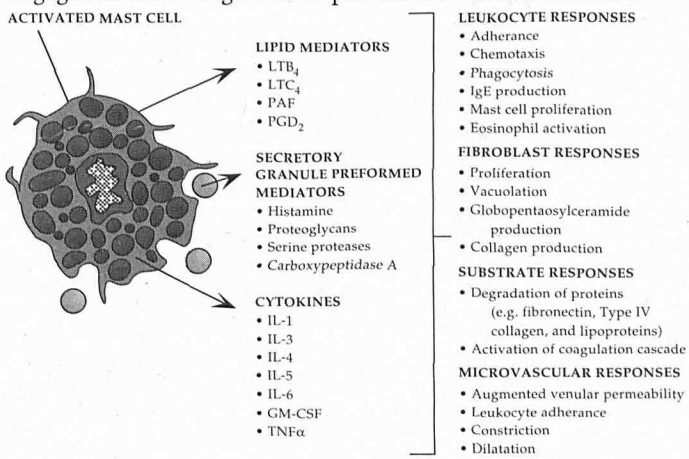

Figure 1. Processes with mast cell involvement. Adapted from Fig 1 of Stevens RL, Austen KF: Recent advances in the cellular and molecular biology of mast cells. Immunol Today 10:381–386, 1989.

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